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~~32.~~ (New) The spill containment rack of claim ~~31~~¹⁷ wherein the spill containment systems are stacked on top of one another.

REMARKS

Claims 1-32 inclusive are now pending in this application. Of these, only claims 1 and 17 are independent. Claims 1-3, 6-9, 12, 13, 17, 23 and 27 have been amended; claims 29-32 have been added. Very similar claims issued in the parent case, now U.S. Patent No. 6,308,728 B1, on October 30, 2001. As will be explained below, Applicants submit that the pending claims are patentable over the prior art for at least the same reasons the similar claims in U.S. Patent No. 6,308,728 B1 are patentable.

Of the pending claims, only claims 1 and 17 are independent. Similar claims in the parent case were previously distinguished from the prior art because the prior art did not disclose a liner within the battery spill containment system and a material that chemically neutralizes the spilled substance from a battery. Claims 1 and 17 continue to require the liner and the material that chemically neutralizes the spilled substance from a battery. However, claims 1 and 17 were amended to make clear that the spill containment system need only include at least one containment rail system instead of a plurality of such containment rail systems. This broadening change to the claims does not alter the patentability of the claims.

For the convenience of the Examiner, Applicant will reiterate below some of the reasons that the claims are patentable over the prior art. Thomas U.S. Patent No. 5,096,087 (hereinafter, "Thomas") is the principal prior art relied upon by the Examiner during prosecution of the parent case, U.S. Patent No. 6,308,728 B1. Thomas is distinguishable for several reasons. First, Thomas has nothing to do with battery spill containment. Instead, Thomas is a secondary containment system for accumulating leaks of hazardous materials from storage tanks, an example storage tank of which is illustrated in FIG. 1 of Thomas. Thomas further explains that:

“[T]he present invention is directed to providing a means for double containment and leak detection that effectively and inexpensively satisfies EPA regulations and provides superior and safe control and detection of leaks from storage tanks. The present invention enables effective yet relatively inexpensive conversion of new or existing storage tanks [see FIG. 1] to provide a secondary containment system that permits containing, accumulating, and detecting the presence of fluids or solids that might leak from the primary containment space in such tanks into a containment space provided by the present invention.”

Thomas at col. 2, line 59 to col. 3, line 2.

Second, Thomas does not disclose a material which absorbs and chemically neutralizes the spilled substance. As a result, Thomas fails to disclose or teach another element of claims 1 and 17. In claims 1 and 17, this material absorbs and chemically neutralizes the spilled substance from the battery so that the battery spill containment system does not merely contain the spilled substance as Thomas does, but also takes an active step in changing the dangerous property of the spilled substance itself. Claims 1 and 17 take an active step in changing the dangerous property of the spilled substance because the claims require a material which performs a chemical neutralization process. To chemically neutralize the battery fluid, the material may change the pH of the battery fluid, for example. Thomas makes no mention of placing a material within the secondary containment system. None of the illustrations of Thomas show such a material. In fact, Thomas does not even teach or disclose a desire for chemical neutralization, much less a material which performs chemical neutralization.

In fact, Thomas teaches away from having a material which chemically neutralizes the spilled substance because Thomas requires the user to drain and flush the spilled substance out of the

secondary containment system within 24 hours, as required by EPA rules. Thomas at col. 1, lines 41-67. Accordingly, Thomas states:

“[t]o provide all the features of the present invention, such configuration should permit fluid flow throughout the parts of the containment space into which the material might leak.... The ability to flow fluids throughout such parts of the containment space, without removing the baffle plate 22, is one of the features of the present invention. Such ability to flow fluids permits flushing, cleaning, and purging of the containment space with the baffle plate 22 in place.”

Thomas at col. 6, lines 18-28. If Thomas were modified to have a material which absorbs and chemically neutralizes the spilled fluid, the spilled fluid could not be “flow” to permit flushing, cleaning and purging, as required by Thomas. Therefore, independent claims 1 and 17 are patentable over the prior art. The broadening amendment to claims 1 and 17, which makes clear that the claimed spill containment system need only include at least one containment rail system instead of a plurality of such containment rail systems, does not alter the patentability of the claims.

The dependent claims are patentable over the prior art, including Thomas, for at least the same reasons their independent claims are patentable.

CONCLUSION

Based on the foregoing remarks to the claims, applicants submit that the pending claims are patentable over the prior art. Therefore, applicants respectfully seek an early allowance of the pending claims. Should the Examiner have any questions regarding this Amendment, he is invited to call the undersigned at his convenience.

Appl. Serial No. 09/960,759
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Patent
267/089

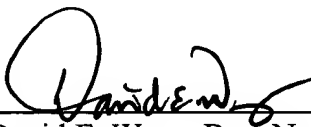
Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attachment is captioned **"Version With Markings To Show Changes Made."**

Respectfully submitted,

LYON & LYON LLP

Dated: November 21, 2001

By:


David E. Wang, Reg. No. 38,358
(949) 567-2300

633 West Fifth Street, Suite 4700
Los Angeles, California 90071-2066
(949) 567-2300

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A spill containment system for containing a hazardous spilled substance from a battery, the spill containment system comprising:

a ~~plurality of containment rail systems, each~~ containment rail system defining an area for housing at least one battery;

a liner placed within the area defined by ~~each of the plurality of containment rail systems~~ system, ~~to make each containment rail system~~ the liner being resistant to damage from the spilled substance; and

a material placed within the area of the containment rail system, the material absorbing and chemically neutralizing the spilled substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

2. (Amended) The spill containment system of claim 1 wherein the ~~plurality of containment rail systems are~~ system is coated with a material that is resistant to damage from the spilled substance.

3. (Amended) The spill containment system of claim 1 wherein ~~plurality of containment rail systems are~~ system is coated with polyvinylchloride.

6. (Amended) The spill containment system of claim 1 wherein the dimensions of ~~each of the containment rail systems are~~ system is adjustable.

7. (Amended) The spill containment system of claim 1 wherein ~~at least one of the containment rail systems~~ system is invertable between a first and second configuration such that in the first configuration, the exterior surfaces of the containment rail system have no protruding structures and in the second configuration, the exterior surfaces of the containment rail system have protruding structures.

8. (Amended) The spill containment system of claim 1 further comprising a protective member that protects the material from the ~~device~~ battery.
9. (Amended) The spill containment system of claim 8 wherein the protective member is a grid placed between the ~~device~~ battery and the material.
12. (Amended) The spill containment system of claim 10 wherein when the spill detector detects that a spill has occurred, the spill detector alerts a ~~second~~ device.
13. (Amended) The spill containment system of claim 10 wherein the spill detector communicates with a ~~second~~ device when the spill detector detects that a spill has occurred such that the ~~second~~ device performs an act to remedy the spill.
17. (Amended) A method for containing a hazardous spilled substance from a battery, the method comprising the steps of:
- building a containment system by connecting a plurality of containment rails to form an area of containment on a floor, the area of containment being adapted for housing at least one battery, the containment system having walls rising vertically from the floor;
 - ~~stacking a plurality of containment systems on top of one another to form a rack of containment systems;~~
 - providing an insert within the area of containment of ~~each of the plurality of containment systems~~ system, the insert being resistant to damage from the spilled substance ~~and making the containment system resistant to damage from the spilled substance;~~
 - providing a material that is capable of absorbing and chemically neutralizing the spilled substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced; and
 - placing the material within the area of containment of ~~each of the plurality of containment systems~~ system.

23. (Amended) The method for containing a spilled substance of claim 17 wherein the step of placing the material within the area of containment includes the step of placing a protective member between the material and the ~~device~~ battery where the protective member protects the material from the ~~device~~ battery.
27. (Amended) The method for containing a spilled substance of claim 24 further comprising the steps of:
communicating with a ~~second~~ device when a spill is detected; and
remedying the spill.
29. (New) The method of containing a spilled substance of claim 17 further comprising the step of providing a plurality of containment systems positioned adjacent to one another.
30. (New) The method of containing a spilled substance of claim 29 further comprising the step of stacking the plurality of containment systems on top of one another.
31. (New) A spill containment rack comprising a plurality of the spill containment systems of claim 1, the spill containment systems being positioned adjacent to one another.
32. (New) The spill containment rack of claim 31 wherein the spill containment systems are stacked on top of one another.

from a battery.

A fifth, separate aspect of the present invention is a containment system that uses materials to neutralize and absorb spilled substances.

5 A sixth, separate aspect of the present invention is a containment system that detects whether there is a spill from a device.

A seventh, separate aspect of the present invention is a containment system that alerts a user or system whether there
10 is a spill from a device.

An eighth, separate aspect of the present invention is a containment system that includes a polyester web fiber coated with PVC. This liner provides corners which may be dielectrically welded or thermal welded for system integrity.

15 A ninth, separate aspect of the invention is any of the foregoing aspects, singly or in combination.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a spill containment
20 system for stationary batteries.

Figure 2 is a front view of the battery spill containment system of Figure 1.

Figure 3 is a side view of the battery spill containment system of Figure 1.

25 Figure 4 is an exploded piece-part drawing of the major

I claim:

1. A spill containment system for containing a hazardous spilled substance from a battery, the spill containment system comprising:

5 a containment rail system defining an area for housing at least one battery;

a liner placed within the area defined by the containment rail system, the liner being resistant to damage from the spilled substance; and

10 a material placed within the area of the containment rail system, the material absorbing and chemically neutralizing the spilled substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

15 2. The spill containment system of claim 1 wherein the containment rail system is coated with a material that is resistant to damage from the spilled substance.

3. The spill containment system of claim 1 wherein containment rail system is coated with polyvinylchloride.

20 4. The spill containment system of claim 1 wherein the liner is coated with polyvinylchloride.

5. The spill containment system of claim 1 wherein the liner is fabricated out of polyvinylchloride.

6. The spill containment system of claim 1 wherein the dimensions of the containment rail system is adjustable.

5 7. The spill containment system of claim 1 wherein the containment rail system is invertable between a first and second configuration such that in the first configuration, the exterior surfaces of the containment rail system have no protruding structures and in the second configuration, the
10 exterior surfaces of the containment rail system have protruding structures.

8. The spill containment system of claim 1 further comprising a protective member that protects the material from the battery.

15 9. The spill containment system of claim 8 wherein the protective member is a grid placed between the battery and the material.

10. The spill containment system of claim 1 further comprising a spill detector that detects whether a spill has
20 occurred.

11. The spill containment system of claim 10 wherein the spill detector indicates whether a spill has occurred.

12. The spill containment system of claim 10 wherein when the spill detector detects that a spill has occurred, the
5 spill detector alerts a device.

13. The spill containment system of claim 10 wherein the spill detector communicates with a device when the spill detector detects that a spill has occurred such that the device performs an act to remedy the spill.

10 14. The spill containment system of claim 10 wherein the spill detector includes a circuit having an electrical characteristic and a circuit monitor that monitors the electrical characteristic of the circuit and when the electrical characteristic changes appropriately, the circuit
15 monitor determines that a spill has occurred.

15. The spill containment system of claim 14 wherein the circuit includes a plurality of conductors and the electrical characteristic is the amount of current flowing through the plurality of conductors.

16. The spill containment system of claim 10 wherein the spill detector includes:

a permeable membrane through which the spilled substance may pass to contact the circuit; and

5 a circuit monitor that monitors whether the spilled substance has passed through the permeable membrane.

17. A method for containing a hazardous spilled substance from a battery, the method comprising the steps of:

building a containment system by connecting a plurality
10 of containment rails to form an area of containment on a floor, the area of containment being adapted for housing at least one battery, the containment system having walls rising vertically from the floor;

providing an insert within the area of containment of the
15 containment system, the insert being resistant to damage from the spilled substance;

providing a material that is capable of absorbing and chemically neutralizing the spilled substance from the battery so that the hazardous nature of the spilled substance to
20 humans or material structures is reduced; and

placing the material within the area of containment of the containment system.

18. The method for containing a spilled substance of claim 17 further comprising the step of coating the plurality of containment rails with a material that is resistant to damage from the spilled substance.

5 19. The method for containing a spilled substance of claim 17 wherein the step of providing an insert includes the step of coating the insert with polyvinylchloride.

20. The method for containing a spilled substance of claim 17 wherein the step of providing an insert includes the
10 step of fabricating the insert out of polyvinylchloride.

21. The method for containing a spilled substance of claim 17 wherein the building step includes the step of adjusting the plurality of containment rails to build a containment system having desired dimensions.

15 22. The method for containing a spilled substance of claim 17 wherein the plurality of containment rails are invertable such that the building step includes the step of building a containment system such that the exterior surfaces of the containment system have no protruding structures.

20 23. The method for containing a spilled substance of claim 17 wherein the step of placing the material within the area of containment includes the step of placing a protective

member between the material and the battery where the
protective member protects the material from the battery.

24. The method for containing a spilled substance of
claim 17 further comprising the step of detecting whether a
5 spill has occurred.

25. The method for containing a spilled substance of
claim 24 further comprising the step of indicating whether a
spill has occurred.

26. The method for containing a spilled substance of
10 claim 24 further comprising the step of alerting a second
device when the step of detecting whether a spill has occurred
detects a spill.

27. The method for containing a spilled substance of
claim 24 further comprising the steps of:

15 communicating with a device when a spill is detected; and
remedying the spill.

28. The method for containing a spilled substance of
claim 24 wherein the step of detecting a spill includes the
steps of:

20 providing a circuit having an electrical characteristic;
and
monitoring whether the electrical characteristic changes.

29. The method of containing a spilled substance of claim 17 further comprising the step of providing a plurality of containment systems positioned adjacent to one another.

30. The method of containing a spilled substance of
5 claim 29 further comprising the step of stacking the plurality of containment systems on top of one another.

31. A spill containment rack comprising a plurality of the spill containment systems of claim 1, the spill containment systems being positioned adjacent to one another.

10 32. The spill containment rack of claim 31 wherein the spill containment systems are stacked on top of one another.

ABSTRACT

SPILL CONTAINMENT SYSTEM AND METHOD

A spill containment system and method that contain leaks
and spills from devices including but not limited to
5 batteries. The system neutralizes and absorbs leaks and
spills to prevent the leaks and spills from spreading. The
system not only detects leaks, but also indicates whether a
leak has occurred. The system can communicate with personnel
or devices to raise an alarm or cause corrective measures to
10 occur.